

IN THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A method of forming a metal line layer in a semiconductor device, comprising the steps of:
 - depositing a metal line layer on a semiconductor structure;
 - forming an insulating film and a photoresist material pattern on the metal line layer in a sequential manner;
 - patterning the insulating film by using the patterned photoresist material;
 - patterning the metal line layer by using the photoresist material pattern and the patterned insulating film as a mask, wherein a metal polymer is formed on the ~~pattern~~ patterned insulating film;
 - removing the photoresist material pattern; and
 - removing the patterned insulating film from the metal line layer by an isotropic etching process so that the metal polymer is removed together with the patterned insulating film, thereby exposing a top surface of the metal line layer.
2. (Original) The method of forming a metal line layer in a semiconductor device according to claim 1, wherein the metal line layer has a multi-layered structure including a Ti/TiN layer and an Al layer.
3. (Original) The method of forming a metal line layer in a semiconductor device according to claim 2, wherein a first Ti/TiN layer, an Al layer, and a second Ti/TiN layer are sequentially deposited in the metal line layer.
4. (Original) The method of forming a metal line layer in a semiconductor device according to claim 1, wherein the insulating film includes a nitride film.
5. (Original) The method of forming a metal line layer in a semiconductor device according to claim 1, wherein a top layer in the semiconductor structure includes an oxide film.

6. (Original) The method of forming a metal line layer in a semiconductor device according to claim 1, wherein the method further comprises a step of forming a BARC layer between the insulating film and the photoresist material formation in order to prevent scattered reflection of light during the patterning of the photoresist material.

7. (Previously Presented) The method of forming a metal line layer in a semiconductor device according to claim 6, wherein the BARC layer and the insulating film are patterned in a single step by using reactive plasma including $\text{CHF}_3/\text{CF}_4/\text{Ar}$ gases.

8. (Previously Presented) The method of forming a metal line layer in a semiconductor device according to claim 6, wherein the BARC layer and the insulating film are patterned in a single step by using reactive plasma including C_xF_y (where x and y are any natural number)/ O_2/Ar gases.

9. (Previously Presented) The method of forming a metal line layer in a semiconductor device according to claim 6, wherein the BARC layer is patterned in a dry manner by using reactive plasma including $\text{O}_2\text{N}_2/\text{Ar}$ gases, and the insulating film is patterned in a dry manner by using reactive plasma including $\text{CHF}_3/\text{CF}_4/\text{Ar}$ gases or C_xF_y (where x and y are any natural number)/ O_2/Ar gases.

10. (Previously Presented) The method of forming a metal line layer in a semiconductor device according to claim 1, wherein O_2/CF_4 gases is used in the step of removing the insulating film.

11. (Previously Presented) The method of forming a metal line layer in a semiconductor device according to claim 1, wherein the method further comprises a cleaning process in order to remove remaining metal polymers and/or metal residues after the step of removing the insulating film.